

REMARKS

These remarks are responsive to the non-final Office Action mailed March 17, 2011. It is respectfully submitted that the claims contain limitations that patentably define over the references cited by the Examiner in that Office Action, for the reasons discussed in these remarks. Therefore, reconsideration and allowance of the pending claims is appropriate and respectfully requested.

Independent Claims 1 and 9

The Office Action maintains the rejections of independent claims 1 and 9 under 35 U.S.C. § 102(b) as anticipated by an article published by Ko et al., "Chest CT: Automated Nodule Detection and Assessment of Change Over Time - Preliminary Experience", Radiology, 218 : 267-273 (2001) (hereafter "Ko"). Reconsideration of the rejections of claims 1 and 9 as anticipated by Ko is respectfully requested.

The applicants very much appreciate the detailed analysis presented by the Examiner in the Office Action in response to the applicants' prior arguments. The crux of the disagreement between the applicants and the Examiner is how to interpret the claim term "relevant." The Examiner has taken the position that, in Ko, "the registration of the trachea, sternum and vertebrae are relevant to the predetermined task of identifying lung modules because it makes the process of identifying the lung nodules efficient (relevance is that the process is efficient)". See March 17, 2011 Office Action, at page 2. The applicants, however, continue to believe that is an overly broad interpretation of the term "relevant" in light of the application's claim language and specification.

The applicants and the Examiner agree that, as the limitations in claims 1 and 9 apply to Ko, the claimed "predetermined task" is trend control of lung tumors by identifying lung nodules. See Ko, page 267, col. 2, para. 2; Application, page 2, lines 16-20; March 17, 2011 Office Action, at page 2. Thus, in order to anticipate the claims, Ko needs to disclose the claim limitation which recites registration of "only those image areas associated with object constituents which are relevant to" trend control of lung tumors by identifying lung nodules. This is the application of the claim language to the disclosure of Ko; it is not an argument that claims 1 and 9 require the object constituents to be the patient's lung and nodules. That is because the predetermined task in Ko is trend control of lung tumors by identifying lung nodules. Thus, whether claims 1 and 9 are patentable over Ko turns on whether Ko discloses registration of only those image areas associated

with object constituents which are relevant to trend control of lung tumors by identifying lung nodules.

With that in mind, the claims and the specification of the application makes abundantly clear that imaging areas which are used solely for purposes of registration are not relevant to the predetermined task. In the claims, this is clear from the separate recitation of “registering” and of performing “a predetermined task”, wherein the registration is done in order to perform the predetermined task. Thus, according to the claim language itself, image areas used solely for purposes of registration are not “relevant” to the predetermined task.

In the specification of the application, the only image areas which are “relevant” to trend control of lung tumors by identifying lung nodules (the predetermined task in Ko) are the patient’s lungs, and the detected nodules within the lungs. See Application, at Abstract; at page 2, lines 16-20 (“In the trend control of lung tumors, for instance, the lungs are the relevant object constituents.”); and at page 5, line 11 to page 6, line 10 (“In the trend control of lung tumors, the only relevant object constituents are the lungs”). This re-emphasizes that in the context of applying the claim limitations to the specific disclosure of Ko, the trachea, sternum and vertebrae are not “relevant” to control of lung tumors by identifying lung nodules. While Ko does indeed disclose using the trachea, sternum and vertebrae to register images as part of the process of controlling lung tumors by identifying lung nodules, that does not make them “relevant” to that task. The benefit to the claimed invention is avoiding the time and work required by the Ko process to register image areas which are not relevant to the predetermined task.

For at least these reasons, Ko fails to disclose each and every limitation of claims 1 and 9, and the rejection of those claims as being anticipated by Ko should be reconsidered and withdrawn.

Independent Claim 18

The Office Action also rejects independent claim 18 in the application under 35 U.S.C. § 102(b) as anticipated by Ko. Reconsideration of this rejection is respectfully requested.

Claim 18 recites “the user selecting one or more object constituents to be registered without consideration of the first image or the second image” (emphasis added). However, Ko discusses a

user manually identifying lung apices in an image, so that the selection is done with consideration of the image. This is the direct opposite of the claim language requiring selection without consideration of the first image or the second image. Claim 18 requires the selection to be made by a user without consideration of either image.

For at least these reasons, Ko fails to disclose each and every limitation of claim 18 and the rejection of that claim as being anticipated by Ko should be reconsidered and withdrawn.

Dependent Claims 2-8, 10-17 and 19

Claims 2-8, 10-17 and 19 each ultimately depend from parent independent claim 1, parent independent claim 9 or parent independent claim 18. The Office Action rejects each of these dependent claims under 35 U.S.C. § 103(a) as being unpatentable over Ko (discussed above in connection with the parent independent claims) in view of one other companion reference. In each rejection, Ko was relied upon as teaching the limitations of the parent independent claims, and the companion reference was cited as teaching the limitations of one or more dependent claim. For at least the reasons identified above, however, Ko does not anticipate claim 1, 9 or 18. On that same basis, it is respectfully submitted that the corresponding obviousness rejections of the dependent claims should be reconsidered and withdrawn.

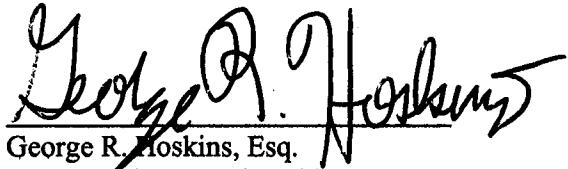
New Claim 20

A new independent claim 20 is presented herein for consideration by the Examiner. New claim 20 is identical to the previously presented claim 9, except that “relevant to” is replaced by “which are required to perform.” The arguments presented above with respect to the patentability of claims 1 and 9 over Ko apply equally well to new claim 20. Therefore, it is respectfully submitted that in Ko, registration of the trachea, sternum and vertebrae are not required to perform the predetermined task of controlling lung tumors by identifying lung nodules.

Conclusion

This Amendment is fully responsive to the Office Action mailed March 17, 2011. It is respectfully submitted that the claims contain limitations that patentably define over the references cited by the Examiner, for the reasons provided in the remarks above. Therefore, reconsideration and allowance of the pending claims is appropriate and respectfully requested.

Respectfully submitted,



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